Attorney's Docket No. 104035.274384 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Kröpke Confirmation No.: 2393
Appl. No.: 10/791,354
Filed: March 1, 2004
For: INCREASING THE STABILITY OF COSMETIC FORMULATIONS BY ADDITION OF IMINODISUCCINIC ACID

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUBMITTAL OF TRANSLATION OF PRIORITY DOCUMENT

Enclosed is a translation of the certified copy of German priority Application No. 101 42 927.4, filed September 1, 2001. A certified copy of the priority document was previously submitted on July 21, 2004.

Respectfully submitted,

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"Express Mail" mailing label number EV 660253900 US
Date of Deposit July 28, 2005

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I, Charles Edward SITCH BA,

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1. That I am a citizen of the United Kingdom of Great Britain and Northern Ireland.

2. That the translator responsible for the attached translation is well acquainted with the German and English languages.

3. That the attached is, to the best of RWS Group Ltd knowledge and belief, a true translation into the English language of the accompanying copy of the specification filed with the application for a patent in Germany on 1 September 2001 under the number 101 42 927.4 and the official certificate attached hereto.

4. That I believe that all statements made herein of my own knowledge are true and that all statements made on information and belief are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent application in the United States of America or any patent issuing thereon.

For and on behalf of RWS Group Ltd

The 20th day of June 2005

FEDERAL REPUBLIC OF GERMANY

[Eagle crest]

Priority Certificate

for the filing of a Patent Application

File Reference: 101 42 927.4

Filing date: 1 September 2001

Applicant/Proprietor: Beiersdorf AG, 20253 Hamburg/DE

Title: Increasing the stability of cosmetic formulations by addition of iminodisuccinic acid

IPC: A 61 K 7/00

The attached documents are a correct and accurate reproduction of the original submission for this Application.

Munich, 18 June 2004

German Patent and Trademark Office

The President

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Hintermeier

Beiersdorf Aktiengesellschaft
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Increasing the stability of cosmetic formulations by addition of iminodisuccinic acid

The present invention relates to cosmetic and/or dermatological formulations, the stability of which is increased decisively by addition of iminodisuccinic acid and/or its salts, and to their use.

Cosmetic and/or dermatological formulations which are transparent or translucent are extremely popular with consumers. Since they are usually transparent, and are probably often colored, but just as often colorless and clear, they offer the cosmetic developer additional design possibilities which in part have a functional character but in part also serve merely to improve the external appearance. Thus, for example, interesting optical effects can be imparted to the product, which is then as a rule presented to the observer in transparent packaging, by incorporated colored pigments, gas bubbles and the like, or also larger objects.

Precisely when it is desirable for the incorporated object or objects, may they be detectable as such with the naked eye or may they then nevertheless result in visible forms in microscopic dimensions, but in an interesting arrangement - for example in the form of artificially produced streaks of color, ... it is desirable for these products to be stored in transparent and/or translucent packaging.

Transparent and/or translucent packaging is also always more popular for cosmetic and/or dermatological formulations which are not transparent and/or translucent. Transparent glass jars and bottles belong to the most widely used forms of packaging for cosmetic and/or dermatological formulations. In their often artistically decorated embodiments, they have a particularly fine effect and give the consumer the impression of having acquired with the cosmetic a small treasure and a high-quality product.

Unfortunately, however, cosmetic and/or dermatological formulations often are light- and color-stable to only a limited extent, and for this reason they must be stored protected from light, e.g. in plastic bottles.

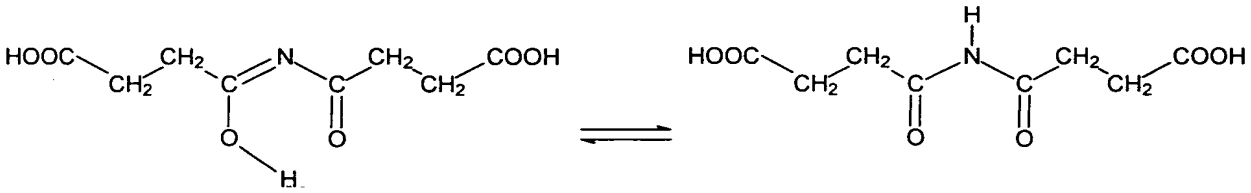
It was therefore the object of the present invention to stabilize cosmetic and/or dermatological formulations such that they can be stored and made available to consumers in transparent and/or translucent packaging without problems.

The object was surprisingly achieved by the use of iminodisuccinic acid and/or salts thereof to increase the color- and light-stability of cosmetic and/or dermatological formulations.

In this context, it is advantageous according to the invention to employ iminodisuccinic acid and/or salts thereof in a concentration of 0.001 to 15% by weight, based on the total weight of the formulation.

It is advantageous here according to the invention to employ the tetrasodium salt as the preferred iminodisuccinic acid compound.

Iminodisuccinic acid has the following structure, an equilibrium of tautomeric forms supposedly being present:



Iminodisuccinic acid is obtainable as a solid, inter alia, from Bayer AG under the trade name Iminodisuccinate VP OC 370 (approx. 30% strength solution) and Baypure CX 100.

The use of iminodisuccinic acid and/or salts thereof leads to an increase in the color-, light- and smell-stability of cosmetic and/or dermatological formulations. In particular, the color-, light- and smell-stability of cosmetic and/or dermatological formulations in transparent and/or translucent packaging is increased by the formulations according to the invention.

Products comprising a cosmetic and/or dermatological formulation comprising iminodisuccinic acid and/or salts thereof and a transparent and/or translucent packaging are advantageous according to the invention.

These cosmetic and/or dermatological products according to the invention can advantageously be used as skin care products, as face care products and as sunscreen products. In the context of the invention, "skin care products" are understood here as meaning, inter alia, skin creams, skin lotions, milks, ointments, oils, balsams and sera which are used for care of the skin. Face care products are used as a special form of skin care products for care of facial skin. They are used in particular to prevent developing and/or reduce already existing wrinkles and folds. According to the invention, face care products also include decorative cosmetics, the main purpose of which is to change the color of skin and skin appendages (e.g. eyelashes, eyebrows). Sunscreen products in the context of the invention are to be understood as meaning all forms of formulations which comprise UV light protection filters. They furthermore include so-called "aftersun products". These are intended to cool the skin after sunbathing and to improve its moisture retention capacity, the imparting of the cooling effect playing a central role. This cooling effect is as a rule achieved by large amounts of ethanol and water, which evaporates spontaneously when the formulation is spread on the skin. These preparations furthermore usually comprise moisturizing agents, such as glycerol or propylene glycol, and antiinflammatory compounds, such as, for example, allantion, α-bisabolol, panthenol or aloe vera extract.

The following examples are intended to illustrate the present invention without limiting it. Unless stated otherwise, all the amounts data, contents and percentage contents are based on the weight and the total amount or on the total weight of the formulations.

Example number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Glyceryl stearate citrate	2							
Glyceryl sterate		5	2	3				
PEG-40 stearate			1					
PEG-100 stearate				1				
Triglycerol methylglucose distearate					3			
Sorbitan stearate					1			
Polyethylene glycol (21) stearyl ether						2		
Polyethylene glycol (2) stearyl ether (steareth-2)						1		

Cetearyl glucoside							2	
Stearic acid								2.5
Myristyl myristate	1		1				1	
Behenyl alcohol					1			2
Stearyl alcohol	2	1					5	
Cetearyl alcohol			2			2		1
Cetyl alcohol	1			1	1			
Hydrogenated coconut fatty glycerides	2			1				1
Shea butter		2						
C12-15 Alkyl benzoate		3	3		2	5	2	
Butylene glycol dicaprylate/dicaprate	1							2
Caprylic/capric triglycerides		4			1			
Hydrogenated polydecene							1	
Ethylhexyl coconut fatty acid ester	3							2
Octyldodecanol						1		
Mineral oil		1				1		
Vaseline	4			2				
Octamethyltetrasiloxane		1	3	1	3	2		
Dimethylpolysiloxane			1					1
Dicaprylyl ether	1	4						
Dicarprylyl carbonate					2			4
Polydecene				1			5	
TiO_2			1	1			2	1
Ethylhexyl methoxycinnamate	3	2		5	3			3
2-Ethylhexyl 2-cyano-3-diphenylacrylate			5					
Ethylhexyltriazone		2			2	3		
Butylmethoxydibenzoyl-methane		1		1				

Bis-Ethylhexyloxyphenol-methoxyphenyltriazines	1				1			2
Ubiquinone (Q10)	0.05		0.05		0.02			0.1
Retinyl palmitate							0.1	
Tocopheryl acetate		0.5						
α-Glucosylrutin						0.1		
Ascorbic acid				0.2				
Liponic acid			0.1					
Retinol					0.1			
Iminodisuccinic acid		0.2						
Tetrasodium iminodisuccinate	0.1	---	0.3	0.1	0.1	0.2	0.5	0.25

Example number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Phenoxyethanol	0.3			0.8	0.4	0.5		0.3
p-Hydroxybenzoic acid alkyl ester	0.5	0.4	0.3	0.4			0.4	0.6
Hexamidine diisethionate			0.04	0.05		0.1		
Diazolidinylurea	0.25				0.2		0.1	
1,3-Dimethylol-5,5-dimethyl-hydantoin		0.2						
Iodopropynyl butyl carbamate	0.1		0.05			0.20		
Ethanol, denatured	1	2			8			3
2-Ethylhexyl glycerol ether				3				
Xanthan gum	0.1			0.2	0.1	0.1		
Polyacrylic acid	0.2		0.1			0.2		
Polyacrylamide		0.2			0.2			
Glycerol	8	10	5	15	5	6	4	5
Butylene glycol		1	2				2	
Water- and/or oil-soluble dyestuffs	0.05							0.1
Fillers (distarch phosphate, SiO_2, talc, aluminum stearate)							5	1
Perfume	q.s.	q.s.	q.s.	q.s.	q.s.	q.s.	q.s.	q.s.
Water	to 100	to 100	to 100	to 100	to 100	to 100	to 100	to 100

Patent claims

1. The use of iminodisuccinic acid and/or salts thereof to increase the color- and light-stability of cosmetic and/or dermatological formulations.
2. The use of iminodisuccinic acid and/or salts thereof to increase the color- and light-stability of cosmetic and/or dermatological formulations in transparent and/or translucent packaging.
3. A cosmetic and/or dermatological product comprising a cosmetic and/or dermatological formulation comprising iminodisuccinic acid and/or salts thereof and a transparent and/or translucent packaging.
4. The use of cosmetic and/or dermatological products as claimed in claim 3 as a skin care product.
5. The use of cosmetic and/or dermatological products as claimed in claim 3 as a face care product.
6. The use of cosmetic and/or dermatological products as claimed in claim 3 as a sunscreen product.

Abstract

The use of iminodisuccinic acid and/or salts thereof to increase the color- and light-stability of cosmetic and/or dermatological formulations.